Scott Menard: Longitudinal Research

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nificantly contributes to the understanding of the movement for globalisation from below. Its detailed analysis of the Italian events with a European and world reach makes it useful for comparisons with other local contexts of the global justice movement.

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Scott Menard: ***Longitudinal Research***
London 2002: Sage, 94 pp.

Longitudinal design is a way of measuring change or causal relationships. Although there are some weaknesses that need to be considered, including the attrition of cases or missing data treatment, it has become a valuable research tool, and it is not just sociology that makes use of it. Although many parts of Scott Menard's *Longitudinal Research* deal with the longitudinal design in general, there is a particular emphasis on the social sciences. The author works at the Institute of Behavioural Science at the University of Colorado, and his research interest covers statistics, demography and development, crime, and delinquency. Therefore, examples are related mainly to research on the above-mentioned topics performed in the United States.

There is no strict definition of a longitudinal design and there are different approaches in the arguments of different authors as to what it involves. In this regard, Menard's view should be seen as only one of many, and perhaps one not everyone will agree with. As Menard notes at the start, the first edition of his book was written in 1990, and a great deal has changed since then in the field of longitudinal research, particularly in data analysis. In his view, among other aspects, both the HLM program, with its revolutionary approach to multilevel and longitudinal data analysis, and the structural equation modelling programs contributed to these changes. Therefore, all the chapters have been altered from those in the first edition, either updated or completely rewritten, depending on the progress made in recent years.

In the introduction Menard mentions that the history of collecting longitudinal data now goes back three hundred years. It dates back to the periodic censuses taken in Canada, and there are some other countries that started with their censuses relatively early – in the first half of 18th century (Sweden, Norway, Denmark, and the United States). The expansion of longitudinal research design came with the emergence of long-term studies of childhood development in the United States after the First World War, and since the 1970s especially a broad range of longitudinal studies has been undertaken in the social and behavioural sciences.

What I find important is Menard's discussion of the term 'longitudinal' at the very beginning of the book (p. 2). In his view, the term refers not to a single method but to a group of methods. He provides a definition of longitudinal research in contrast with cross-sectional research. Cross-sectional research can be concisely described as a design in which each individual (case) is measured once and the measurement of each variable for each case is made within a narrow time span. In contrast, the author describes longitudinal research as follows: For each variable data are collected for at least two distinct time periods, cases are the same or at least comparable from one period to the next, and the analysis includes a comparison between or among periods.

The purposes of longitudinal research and the difficulties involved in separating historical and developmental changes are discussed in Chapter 2. According to Menard, there are two primary purposes of longitudinal research: first, to describe patterns of changes; and second, to establish the direction and magnitude of causal relationships.

Data interpretation is always something that can be affected by problematic factors. Therefore, I appreciate that Menard points out (p. 12) some of the possible problems that can stem from *age*, *period* and *cohort* effects in longitudinal research. According to Menard, it is crucial to distinguish between these three factors even when still in the stage of preparing a survey. He provides many vivid examples of this when discussing a) the difference between changes over chronological time (historical changes) and changes by age (developmental changes), and b) controlling for the above-mentioned factors with the use of multi-year or multi-cohort designs. He claims that it is difficult to clearly separate developmental, historical, and cohort membership effects without longitudinal data.

Next, various approaches to causal relationship analysis are discussed and Menard appropriately illustrates the complexity of this issue. He also shows the strong need to control for other variables when measuring the causality of two given variables and warns that changes in both variables may take place from one period to the next, thus often making it impossible to determine what is cause and what is effect.

The author makes a remarkable point (p. 23) when he notes that there are some longitudinal data (mainly the earliest census data) that were originally not collected for the purpose of measuring change or causal relationships. This fact can be the source of problems, and it should therefore generally be taken into account how important it is to work with variables that make available compatible, comparable, and reliable data.

Designs for longitudinal data collection are discussed in Chapter 3. This section starts with what I would call 'bad examples', and I think that it is good that the author provides (p. 25) evidence of research projects in which data were analysed as longitudinal even though in fact they were not. No wonder there is then reason to question findings. For example, in a time-ordered cross-sectional design, cases are measured at the same time for each variable, each variable is measured only once for each case, but the variables are measured at different times. Although it is not truly a longitudinal design, Menard claims that this has some advantages over a purely cross-sectional design. Regardless, using it to measure causal relationships is more likely to produce incorrect causal ordering. The author argues that with longitudinal data this is more likely to be detected (e.g. by stage-state analysis or linear panel analysis).

In the next part of the book, the author presents the following four types of longitudinal designs (including both positive and negative aspects): *total population design* (e.g. census); *repeated cross-sectional design* (e.g. public opinion poll); *revolving panel design* (based on the replacement of the sub-sample that is dropped with a new but comparable one); *longitudinal panel design* (the same set of cases used in each period). I consider it useful that each type is accompanied by a figure (p. 27) depicting whether there is an overlap of cases (or not) across time and to what extent.

In general, it is probably clear that, in comparison to total population design, the other three involve a sample drawn from the total population. According to Menard, they differ in terms of the extent to which the same or comparable cases are studied from one period to the next. He also mentions other distinctive characteristics relating to types of analysis. Both total population design and longitudinal panel design can be used for practically any type of longitudinal analysis, but other designs are more limited. Menard also admits (p. 34) that the above-mentioned designs are not the only possible designs for longitudinal research. However, he believes that other possible designs may be formed out of modifications of these four.

Although the author claims at the beginning of Chapter 4 that there is nothing unique about the methods used to collect data for longitudinal research, in fact there are some issues that make a difference and are discussed later in the chapter. In longitudinal research, data are collected on each variable for at least two periods, and this is one important distinction to cross-sectional data collection. Bias in sampling, which can be amplified by repetition in repeated cross-sectional design, is another example that Menard mentions (p. 37).

The author then discusses six more aspects that need to be taken into account when doing longitudinal research. When talking about the issue of changes in measurement over time he points out the danger of possibly destroying the utility of some data if other studies clearly discredit the hypothesis on which the research project is based. Although it may become meaningless to continue the research (hypotheses, variables, and measurements can, alternately, be shifted), it would mean that the two parts (before and after the shift) may not be comparable.

Menard's next comments focus on the attrition rate. To keep it low, it is crucial to maintain contact with the research subjects. Various ways in which to deal with this include contacting parents, schools, post offices, and so on, and Menard illustrates this approach using some practical examples. He also provides some basic instructions on how to handle missing data (p. 46) and discusses the advantages of using a control group to control for bias that may be connected with the repeated measurement and panel conditioning (p. 51). While I found that interesting, I felt a lack of detailed explanations when he was dealing with the issues of respondent recall and costs of longitudinal research.

Different methods and how they apply to differently combined numbers of cases and numbers of periods are discussed in Chapter 5, which provides a broad overview of analytical methods for longitudinal analysis. This chapter does not demonstrate in detail how to use each method. Instead, Menard focuses on the different types of research questions that may be addressed by longitudinal research and the different methods that may be used to answer them. He makes a distinction between and among various aspects, including a description of change versus causal analysis; qualitative versus quantitative analysis; and short-term versus long-term analysis. In the conclusion, Menard provides a very clear and lucid list of basic guidelines (p. 78), explaining when to use cross-sectional and in what situations to prefer longitudinal design.

The book is written in a clear style and includes concrete examples to help readers grasp the discussed themes. The content is well organised, based on detailed knowledge of the field, and supplemented with a comprehensive list of references, including descriptions of the methods of analysis that are accompanied by citations to sources that cover the given topics in more detail. What the book is missing is a list (overview) of the longitudinal surveys that are mentioned in the text, along with some of the basic characteristics of each, and a link to a Web page; this would have been useful for those readers who want to become more familiar with this field.

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Paul Starr: ***Freedom's Power: The True Force of Liberalism***
New York 2007: Basic Books, 276 pp.

The Liberals Strike Back

Now the liberals are coming back in America. With the failures of the Bush administration, the victory for the Democrats in the 2006 Congressional elections, and the prospect of regime change in the 2008 Presidential elections, they are returning from exile